



General

Guideline Title

Best evidence statement (BEST). Adding home based services to complement center based intervention for children with autism.

Bibliographic Source(s)

Cincinnati Children's Hospital Medical Center. Best evidence statement (BEST). Adding home based services to complement center based intervention for children with autism. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2013 Feb 6. 6 p. [14 references]

Guideline Status

This is the current release of the guideline.

Recommendations

Major Recommendations

The strength of the recommendation (strongly recommended, recommended, or no recommendation) and the quality of the evidence (1a-5b) are defined at the end of the "Major Recommendations" field.

1. It is strongly recommended that home based developmental intervention in addition to center-based developmental intervention be provided to children with autism spectrum disorder (ASD) or pervasive developmental disorder- not otherwise specified to improve:
 - a. Child intelligence quotient (IQ) in families with high stress (Rickards et al., 2007 [2a])
 - b. Communication (Oosterling et al., 2010 [2a])
 - c. Gestures produced (Drew et al., 2002 [2a])
 - d. Play skills (Ingersoll & Gergans, 2007 [5a])
2. It is recommended that home based developmental intervention in addition to center-based developmental intervention is provided to children with autism spectrum disorder or pervasive developmental disorder-not otherwise specified in order to:
 - a. Reduce parental stress (Drew et al., 2002 [2a])
 - b. Reduce parental depression (Küçüker, 2006 [4a])
 - c. Increase parental satisfaction with child outcomes (Ingersoll & Gergans, 2007 [5a])

Definitions:

Table of Evidence Levels

| Quality Level | Definition |
|---------------|------------|
| | |

| | |
|------------|---|
| 1a† or 1b† | Systematic review, meta-analysis, or meta-synthesis of multiple studies |
| 2a or 2b | Best study design for domain |
| 3a or 3b | Fair study design for domain |
| 4a or 4b | Weak study design for domain |
| 5a or 5b | General review, expert opinion, case report, consensus report, or guideline |
| 5 | Local Consensus |

†a = good quality study; b = lesser quality study

Table of Recommendation Strength

| Strength | Definition |
|--|--|
| It is strongly recommended that... | When the dimensions for judging the strength of the evidence are applied, there is high support that benefits clearly outweigh risks and burdens. (or visa-versa for negative recommendations) |
| It is strongly recommended that... not... | |
| It is recommended that... | When the dimensions for judging the strength of the evidence are applied, there is moderate support that benefits are closely balanced with risks and burdens. |
| It is recommended that... not... | |
| There is insufficient evidence and a lack of consensus to make a recommendation... | |

Note: See the original guideline document for the dimensions used for judging the strength of the recommendation.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

- Autism spectrum disorder (ASD)
- Pervasive developmental disorder – not otherwise specified

Guideline Category

Management

Treatment

Clinical Specialty

Family Practice

Internal Medicine

Pediatrics

Physical Medicine and Rehabilitation

Psychology

Speech-Language Pathology

Intended Users

Advanced Practice Nurses

Nurses

Occupational Therapists

Physical Therapists

Physician Assistants

Physicians

Psychologists/Non-physician Behavioral Health Clinicians

Speech-Language Pathologists

Guideline Objective(s)

To evaluate, among children under the age of 6 years old with autism spectrum disorder (ASD) or pervasive developmental disorder – not otherwise specified and their parents, if home based developmental intervention in addition to center based developmental intervention compared to center based developmental intervention only improves child and/or parent outcomes

Target Population

Children under the age of 6 years old with autism spectrum disorder (ASD) or pervasive developmental disorder – not otherwise specified

Note: No exclusion criteria for children with dual diagnosis

Interventions and Practices Considered

Home based developmental intervention in addition to center based developmental intervention

Major Outcomes Considered

- Child outcomes including:
 - Child intelligence quotient (IQ)
 - Communication
 - Gestures produced
 - Play skills
- Parent outcomes including:
 - Parental stress
 - Parental depression

- Parental satisfaction with child outcomes

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Search Strategy

- Databases: Science Direct, Springer, Medline PICO, CINAHL, PubMed, PubMed Clinical Queries, Rehabilitation Reference Center
- Search Terms: Autism, autism spectrum disorder, children, natural environment, home based, community based, home health, in home, intervention, treatment, parents, stress, depression
- Limits, Filters, Search Dates: Human and English language; 1980 - February 16, 2012
- Date Search Done: February 16, 2012

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Table of Evidence Levels

| Quality Level | Definition |
|---------------|---|
| 1a† or 1b† | Systematic review, meta-analysis, or meta-synthesis of multiple studies |
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| 4a or 4b | Weak study design for domain |
| 5a or 5b | General review, expert opinion, case report, consensus report, or guideline |
| 5 | Local Consensus |

†a = good quality study; b = lesser quality study

Methods Used to Analyze the Evidence

Systematic Review

Description of the Methods Used to Analyze the Evidence

Not stated

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Not stated

Rating Scheme for the Strength of the Recommendations

Table of Recommendation Strength

| Strength | Definition |
|---|--|
| It is strongly recommended that... It is strongly recommended that... not... | When the dimensions for judging the strength of the evidence are applied, there is high support that benefits clearly outweigh risks and burdens. (or visa-versa for negative recommendations) |
| It is recommended that... It is recommended that... not... | |
| There is insufficient evidence and a lack of consensus to make a recommendation... | |

Note: See the original guideline document for the dimensions used for judging the strength of the recommendation.

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Peer Review

Description of Method of Guideline Validation

This Best Evidence Statement has been reviewed against quality criteria by two independent reviewers from the Cincinnati Children's Hospital Medical Center (CCHMC) Evidence Collaboration.

Evidence Supporting the Recommendations

References Supporting the Recommendations

Drew A, Baird G, Baron-Cohen S, Cox A, Slonims V, Wheelwright S, Swettenham J, Berry B, Charman T. A pilot randomised control trial of a parent training intervention for pre-school children with autism. Preliminary findings and methodological challenges. *Eur Child Adolesc Psychiatry*. 2002 Dec;11(6):266-72. [PubMed](#)

Ingersoll B, Gergans S. The effect of a parent-implemented imitation intervention on spontaneous imitation skills in young children with autism. *Res Dev Disabil*. 2007 Mar-Apr;28(2):163-75. [PubMed](#)

Kucuker S. The family-focused early intervention programme: evaluation of parental stress and depression. *Res Develop Disabil*. 2006;28(2):165-75.

Oosterling I, Visser J, Swinkels S, Rommelse N, Donders R, Woudenberg T, Roos S, van der Gaag RJ, Buitelaar J. Randomized controlled trial of the focus parent training for toddlers with autism: 1-year outcome. *J Autism Dev Disord*. 2010 Dec;40(12):1447-58. [PubMed](#)

Rickards AL, Walstab JE, Wright-Rossi RA, Simpson J, Reddihough DS. A randomized, controlled trial of a home-based intervention program for children with autism and developmental delay. *J Dev Behav Pediatr*. 2007 Aug;28(4):308-16. [PubMed](#)

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Improved child outcomes including:

- Child intelligence quotient (IQ)
- Communication
- Gestures produced
- Play skills

Improved parent outcomes including:

- Parental stress
- Parental depression
- Parental satisfaction with child outcomes

Potential Harms

Not stated

Qualifying Statements

Qualifying Statements

This Best Evidence Statement addresses only key points of care for the target population; it is not intended to be a comprehensive practice guideline. These recommendations result from review of literature and practices current at the time of their formulation. This Best Evidence

Statement does not preclude using care modalities proven efficacious in studies published subsequent to the current revision of this document. This document is not intended to impose standards of care preventing selective variances from the recommendations to meet the specific and unique requirements of individual patients. Adherence to this Statement is voluntary. The clinician in light of the individual circumstances presented by the patient must make the ultimate judgment regarding the priority of any specific procedure.

Implementation of the Guideline

Description of Implementation Strategy

Applicability Issues

When considering home based developmental intervention, it is important to consider the cost and reimbursement for the service. Many payment sources fail to cover the cost of community-based care and will only reimburse for direct patient care not parent-only training or coordination of family services.

Other variables to consider are the staff that will be providing the service and if the same clinician would be able to provide both center based and home based developmental intervention. If more than one clinician is providing treatment, it is important to consider close collaboration between these professionals as to preserve the fidelity of the treatment.

Current literature supports that children from highly stressed families have achieved better outcomes with intelligence quotient (IQ) following home based developmental intervention. Therefore, it is important to establish a screening process to identify which families will benefit from this specialized service.

Implementation Tools

Audit Criteria/Indicators

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

| |
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Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2013 Feb 6

Guideline Developer(s)

Cincinnati Children's Hospital Medical Center - Hospital/Medical Center

Source(s) of Funding

Cincinnati Children's Hospital Medical Center

Guideline Committee

Not stated

Composition of Group That Authored the Guideline

Group/Team Leader: Amy Johnson, OTR/L Team Leader/The Kelly O'Leary Center for Autism Spectrum Disorders

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Financial Disclosures/Conflicts of Interest

Conflict of interest declaration forms are filed with the Cincinnati Children's Hospital Medical Center Evidence-based Decision Making (CCHMC EBDM) group. No financial or intellectual conflicts of interest were found.

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available from the [Cincinnati Children's Hospital Medical Center Web site](#) .

Print copies: For information regarding the full-text guideline, print copies, or evidence-based practice support services contact the Cincinnati Children's Hospital Medical Center Health James M. Anderson Center for Health Systems Excellence at EBDMInfo@cchmc.org.

Availability of Companion Documents

The following are available:

- Judging the strength of a recommendation. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2009 May 7. 1 p. Available from the [Cincinnati Children's Hospital Medical Center Web site](#) .
- Grading a body of evidence to answer a clinical question. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2009 May 7. 1 p. Available from the [Cincinnati Children's Hospital Medical Center Web site](#) .
- Table of evidence levels. Cincinnati (OH): Cincinnati Children's Hospital Medical Center; 2009 May 7. 1 p. Available from the [Cincinnati Children's Hospital Medical Center Web site](#) .

Print copies: For information regarding the full-text guideline, print copies, or evidence-based practice support services contact the Cincinnati Children's Hospital Medical Center Health James M. Anderson Center for Health Systems Excellence at EBDMInfo@cchmc.org.

In addition, suggested process or outcome measures are available in the [original guideline document](#) .

Patient Resources

None available

NGC Status

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